

REMARKS

Claims 1, 8 and 9 have been amended.

The Examiner has rejected claims 1-3 and 6-9 under 35 USC 103(a) as being unpatentable over the Kitagawa et al. patent (US Patent No. 5,799,206) taken in view of the Kadota publication (US Pub. No. 2003/0076519). The Examiner has rejected claim 4 under 35 USC 103(a) as being unpatentable over the Kitagawa et al. patent taken in view of the Kadota publication and further in view of the Qiao publication (US Pub. No. 2003/0030843). The Examiner has rejected claim 5 under 35 USC 103(a) as being unpatentable over the Kitagawa et al. patent taken in view of the Kadota publication and further in view of the Ogishima publication (US Pub. No. 2002/0083001). With respect to applicant's claims, as amended, these rejections are respectfully traversed.

Applicant's independent claim 1 has been amended to recite a remote printing server which receives data from a client computer via a local network and sends data over a global network so as to print the data on a remote printer which does not exist in the local network, comprising: print response means for performing a print control protocol so that the client computer can recognize said remote printing server as a local printer in the local network, receiving print data from the client computer and generating a print job for performing a response process when the data is printed; spooling means for spooling the print job generated by said print response means, informing the client computer of a completion of a print process in the local network, and generating a print completion job; transferring data conversion means for converting the print completion job generated by said spooling means into a format in which the job can be transferred to the remote printer over the global network; and remote transfer means for transferring the print completion job

converted into a transferrable format by said transferring data conversion means to the remote printer over the global network using a predetermined transfer protocol.

Independent claims 8 and 9 have been similarly amended.

The constructions recited in applicant's amended independent claims 1, 8 and 9 are not taught or suggested by the cited art of record. In particular, none of the cited references disclose a remote printing server or method which communicates with a local network and a global network so as to receive data from a client computer via the local network and to send data over the global network to print the data on a remote printer which does not exist in the local network.

In particular, the Kitagawa et al. patent discloses a system in which a host computer (110) is connected to a network printer (NPR) (120) via a network (100) and causes the network printer to execute a print job. Col. 8, lines 52-57. The network printer (120) includes a protocol controlling unit (121) interprets the printing protocol commands received via the network (100), controls the execution of print jobs on printer (120) and sends printing status information via the network 100. Col. 10, Lines 24-28. Additionally, the Kitagawa et al. patent discloses that the host computer 110 and the protocol controlling unit 121 transfer print job data using TCP/IP 117 protocol through a socket interface 116 which is in communication with the network 100.

The system of Kitagawa, et al. includes only one network (100) for connecting the computer (110) and the printer (120) which includes the connecting protocol controlling unit (121), and there is no teaching or suggestion in Kitagawa, et al. of two distinct networks, i.e. a local and a global network, wherein the remote printing server communicates with both networks and wherein the remote printer exists only in one

network, i.e. the global network, but not in the other network, i.e. the local network. Since the Kitagawa, et al. patent does not teach or suggest a global and a local network, or a remote printing server that receives data from a client computer via a local network and sends data over a global network to print the data on a remote printer which does not exist in the local network, there is no, and cannot be any, teaching in Kitagawa, et al. of the remote printing server that receives print data from the client computer via the local network, generates and spools a print job, informs the client computer of a completion of a print process in a local network, generates a print completion job and transfers a converted print completion job to the printer that does not exist in the local network over the global network. Instead, in Kitagawa, et al., the network printer (120), which the Examiner has argued is the remote printing server, is connected to the client computer over a single network (100) so as to receive print data from the client computer over the network, to print out the data received from the client computer, and to send a status indication to the client computer over the same network (100).

The Kadota publication likewise discloses a system which only has a single network. In particular, Kadota discloses a system in which a printer (3) is directly attached to a server PC (2) which, in turn, is interconnected to multiple client PCs 1 via a single local network. See FIG. 1; Paragraph [0054]. The Kadota publication also discloses a spool file modifying device 23 which modifies Enhanced Meta Files received from a client PC (1) via the local network for modified printing (Paragraphs [0067]-[0069]) and a GDI printer driver 25 which converts Enhanced Meta Files into printer control codes suitable to the printer (3) and transmits the printer control codes to the printer (3) via the direct attachment.

In the Kadota publication, there is only one network that connects the server PC and the client PCs, and there is no mention of having two distinct networks or of a global and a local networks. Accordingly, there is no teaching or suggestion in Kadota of a remote printing server that receives data from a client computer via a local network and sends data over a global network so as to print the data on a remote printer which does not exist in the local network. In addition, since there is no teaching in Kadota of a local and a global networks or of a remote printer which does not exist in the local network, there is no, and cannot be any, teaching in Kadota of converting a print completion job generated in the local network into a format in which the print job can be transferred to the remoter printer over the global network. Instead, Kadota only teaches conversion of a print job generated in the Server PC in the local network into a format which can be used by the printer directly attached to the Server PC.

Accordingly, neither the Kitagawa, et al. patent nor the Kadota publication teach or suggest a remote printing server which receives data from a client computer via a local network, sends data over a global network so as to print so as to print the data on a remote printer which does not exist in the local network, generates and spools a print job, informs the client computer of the completion of the printing process in the local network, generates a print completion job, converts the print completion job into a format in which the job can be transferred to the remote printer over the global network and transfers the print completion job to the remote printer over the global network. Applicant's amended independent claims 1, 8 and 9, all of which recite such features, and their respective dependent claims, thus patentably distinguish over the Kitagawa et al. patent and the Kadota publication, taken alone or in combination with one another.

Moreover, the cited Qiao and Ogishima publications do not teach or suggest the features of applicant's amended independent claims 1, 8 and 9, and in particular, the remote printing server that receives data from a client computer via a local network and sends the data via a global network to print the data on remote printer that does not exist in the local network. The Qiao publication discloses an internet printing system in which client computers (2-1 and 2-2) and a proxy unit (12) are directly interconnected via the Internet and printer servers (31 and 33) and proxy unit (12) are interconnected via the Internet through firewalls (30 and 32). FIG. 1; Paragraphs [0072]-[0074]. The proxy unit (12) in Qiao receives a print job from a client computer (2-1; 2-2), converts printer status information into IPP format and sends it to the client computer, converts the print job into the protocol of the printer (31, 33) and transfers the print job to the printer (31, 33). Paragraphs [0086]-[0089]. There is no mention in Qiao of a local network through which the proxy unit, or the printing server, receives data from the client computer, or of a remote printer that does not exist in the local network through which data is transmitted from the client computer to the printing server. Instead, Qiao only teaches that the printing server, i.e. proxy unit, receives the data from the client computer over a global network, i.e. the Internet, and sends the data, after converting it, to a remoter printer over the same global network through a firewall. See, FIG. 1.

The cited Ogishima publication discloses a system in which a client terminal (11), such as a personal computer, and a printing apparatus (13) are connected by a network (15), and a server (12) is accessible from the client terminal (11) via a network (14) such as the Internet. Paragraph [0050]; FIG. 3. In Ogishima, the server (12) transfers enciphered data to the client terminal (11) via the network (14) in response to the client terminal's request, and

the terminal transfers via the network (15) the received enciphered data to the printing apparatus (13) which decipheres and prints the data. See, paragraphs [0051], [0054]-[0057], [0066], [0070], [0078]-[0079]. Thus, the Ogishima publication only teaches a terminal (11) which receives data from a server computer (12) over one network (14), which appears to be a global network such as the Internet, and sends data over another network (15) to print the data on a printer (15). However, Ogishima does not mention a computer which receives data via a local network and then sends the data over a global network to print the data on a remote printer. There is also no mention in Ogishima of the printer that does not exist in one of the networks, and in particular in the local network. Moreover, the terminal (11) in Ogishima merely relays the enciphered data from the server (12) to the printer (13) (See, paragraph [0056]), and there is no teaching or suggestion in Ogishima of the terminal performing any print control protocol so that the server can recognized the printing server as a local printer in the local network, generating a print job for performing a response process when the data is printed, spooling the print job, generating a print completion job, converting the print completion job in into any particular format or transferring the converted print completion job to the remote printer over the global network.

Accordingly, neither the Qiao publication nor the Ogishima publication disclose a remote printing server which receives data from the client computer via a local network and sends data over a global network so as to print the data on a remote printer which does not exist in the local network, generates and spools a print job, informs the client computer of the completion of the printing process in the local network, generates a print completion job, converts the print completion job into a format in which the job can be transferred to the remote printer over the global network and transfers the print completion job to the

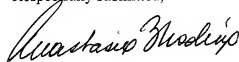
remote printer over the global network. Thus, the Qiao and the Ogishima publications fail to add anything to the Kitagawa, et al. patent and the Kadota publication, and applicant's amended independent claims 1, 8 and 9, and their respective dependent claims, patentably distinguish over the combination of the Kitagawa, et al., Kadota, Qiao and Ogishima references.

In view of the above, it is submitted that applicants' claims, as amended, patentably distinguish over the cited references. Accordingly, reconsideration of the claims is respectfully requested.

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